

ABSTRACT

Unburned carbon is efficiently removed from fly ash, and effective utilization of the fly ash and removed unburned carbon is attained. Water is added to fly ash to thereby obtain a slurry. A collector is added to the slurry, and shearing force is applied to the slurry and collector to thereby attain a surface modification. The mixture is subjected to flotation operation at which unburned carbon of fly ash is attached to froths and surfaced. The application of shearing force to the slurry and collector can be carried out by means of a submerged agitator whereby an agitation power of 0.7 to 10kWh/m³ is applied per unit quantity of slurry. The fly ash concentration of the slurry is in the range of 3 to 50 wt.%, and the amount of collector added is in the range of 5 to 100 wt.% based on the amount of unburned carbon of fly ash. The unburned carbon separated by flotation can be used as fuel, and the fly ash (product) having its unburned carbon content reduced to 1 wt.% or below can be used as a cement mixing material or a raw material for production of lightweight aggregate.